

### Remarks

The above-referenced application has been reviewed in light of the Examiner's Final Office Action dated September 13, 2006. By the present amendment, Claims 21-24 have been canceled, and Claims 2, 4, 7, 9, 12, 14, 17 and 19 have been amended. Therefore, Claims 2-5, 7-10, 12-15 and 17-20 are currently pending in this application. The Examiner's reconsideration of the rejections is respectfully requested, particularly in view of the above amendments and the following remarks.

In accordance with the Office Action, Claims 2, 4, 7, 9, 12, 14, 17, and 19 drew objections for informalities. Claims 2, 4, 7, 9, 12, 14, 17, and 19 have been amended to correct the informalities in accordance with the Examiner's kind suggestions. No new matter has been added.

In accordance with the Office Action, Claims 17-20 and 24 stand rejected under 35 USC § 112, second paragraph, as being indefinite. Claim 17 has been amended. In addition, the Examiner has requested that Applicants point out an example of the claimed "searching means" in the specification. It shall be understood that examples referenced herein are merely exemplary and shall not be construed as exhaustive. For example, searching means are described in terms of matchlines in the specification as originally filed (see, e.g., Application at page 5, lines 8-18; page 6, line 24 through page 7, line 17). Thus, the presently claimed "searching means" comprises one or more matchlines for finding matching words in segments of a CAM, without the need to discharge all of the other matchlines for every search cycle. In addition, since each matchline does not connect to all cells in a wordline, its capacitance does not increase

as the CAM gets wider. Thus, as the widths of CAMs increase, the presently claimed searching means substantially avoids the decreased operating speed and increased power consumption of conventional CAM architectures.

In accordance with the Office Action, Claims 2-5, 7-10, 12-15 and 17-24 stand rejected under 35 USC § 102(e) as being anticipated by United States Patent No. 6,804,134 to Proebsting et al. The Examiner's rejection of Claims 21-24 is traversed.

Claims 21-24 have been canceled, and their limitations have been incorporated into independent Claims 2, 7, 12 and 17, respectively. No new matter has been added and no new issues have been raised.

Amended Claim 2 recites, *inter alia*, a "content addressable memory ... comprising a plurality of segments ... wherein each of the plurality of segments is substantially the same size."

The '134 to Proebsting et al. is generally directed towards a ternary content addressable memory having array blocks. Proebsting et al. fail to show that each of the plurality of segments is substantially the same size, and actually teach away from equally sized segments by advocating hierarchical segments in which each successive segment is larger than the preceding segment. The Examiner cites Proebsting at col. 9, lines 25-30, and col. 12, lines 41-62 for a showing that the segment sizes may be arbitrary.

Applicants submit that while Proebsting mentions in passing that the size increase for successive segments may be arbitrary, there is no teaching or suggestion that Proebsting had even contemplated, much less suggested, that said size increase

could be non-positive. That is, all of Proebsting's embodiments and claimed advantages are directed towards hierarchical segments of increasing size (e.g., +2, +6, etc.), even though a broad interpretation of Proebsting might fairly hold that the particular increase in size per segment may be an arbitrary positive non-zero integer (see, e.g., Proebsting at col. 12, lines 30-47; col. 15, lines 16-34). Applicants' presently claimed invention has substantially same-sized segments. Thus, there is no increase for successive segments.

Therefore, amended Claim 2 is neither taught nor suggested by the '134 to Proebsting et al. Similarly, amended Claims 7, 12 and 17, which each recite like features, are also neither taught nor suggested by the '134 to Proebsting et al., whether taken alone or in combination with any of the other references of record in this case.

In accordance with the Office Action, Claims 21-24 stand rejected under 35 USC § 103(a) as being unpatentable over the '134 to Proebsting et al. in view of United States Patent No. 6,965,519 to Park et al. Applicants traverse.

As discussed above with respect to the rejections based on Proebsting et al., Claims 21-24 have been canceled, and their limitations have been incorporated into independent Claims 2, 7, 12 and 17, respectively. No new matter has been added and no new issues have been raised.

Amended Claim 2 recites, *inter alia*, a "content addressable memory ... comprising a plurality of segments ... wherein each of the plurality of segments is substantially the same size."

The Examiner relies on the '134 to Proebsting et al. for showing a segmented CAM, and further relies on the '519 to Park et al. for showing same-sized CAM segments. The '519 to Park et al. is generally directed towards a CAM that is divided into loosely connected "segments", where certain "segments" are interconnected with each other by means of "dual-capture match-line signal repeaters" (Park at Abstract). Applicants respectfully submit that the segments of Park et al. that are interconnected by dual-capture match line signal repeaters effectively have an increased combined size relative to the other segments. Therefore, not even Park teaches same-sized segments. In addition, there is no showing of how the functionally different segments of Park that require dual-capture match-line signal repeaters, even if they were same-sized, could be incorporated into the CAM of Proebsting. That is, the combination appears unworkable without further technical development.


Therefore, amended Claim 2 is neither taught nor suggested by the '134 to Proebsting et al. in view of the '519 to Park et al. Similarly, amended Claims 7, 12 and 17, which each recite like features, are also neither taught nor suggested by the '134 to Proebsting et al. in view of the '519 to Park et al., whether taken alone or in combination with any of the other references of record in this case.

## Conclusion

Accordingly, it is respectfully submitted that amended independent Claims 2, 7, 12 and 17 are in condition for allowance for at least the reasons stated above. Since Claims 3-5, 8-10, 13-15 and 18-20 each depend from one of the above claims and necessarily include each of the elements and limitations thereof, it is respectfully submitted that these claims are also in condition for allowance for at least the reasons stated, as well as for reciting additional patentable subject matter. Thus, each of Claims 2-5, 7-10, 12-15 and 17-20 is in condition for allowance. All issues raised by the Examiner having been addressed, reconsideration of the rejections and an early and favorable allowance of this case are earnestly solicited.

Respectfully submitted,

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